

# HOGEUN PARK

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## Research & Teaching Interest

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Social & Spatial Inequality, Informal Settlements, Computational Social Science, Geospatial Analysis & Visualization

## Education

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### Michigan State University (MSU)

Ph.D. in Planning, Design, and Construction (Urban & Regional Planning concentration) East Lansing, USA  
Graduate Certificate in Environmental and Social System Modeling Aug.2014 – Aug.2018  
Doctoral Specialization in Environmental Science and Policy  
Dissertation: *Urban transformation in transitional economies: Lessons from the Mongolian plateau*

**National Socio-Environmental Synthesis Center (SESYNC)** Graduate Research Fellow Annapolis, USA  
Mar.2016 - Aug.2018

### Seoul National University

MS in Urban and Regional Planning, Graduate School of Environmental studies (GSES) Seoul, Korea  
Sep.2011 - Feb.2014  
*The best master thesis awardee*

### Handong Global University

BS in both Urban Planning and Construction Engineering, Pohang, Korea  
Department of Spatial Environment System Engineering Feb.2005 - Aug.2011

## Professional Appointments

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**University of California, San Diego (UCSD)** San Diego, USA  
**Big Pixel Postdoctoral Fellow, School of Global Policy and Strategy (GPS)** Aug.2018 – Present

- Developed satellite imagery-based machine learning algorithms to predict income and economic activity
- Constructed computational models for disaster risk reduction and management

### Korea International Cooperation Agency (KOICA)

**Civil Engineer /GIS specialist** (in lieu of military service) Saquisili, Ecuador  
Mar.2008 – Sep.2010

- Constructed and managed the GIS-based land registration and cadastral DB
- Inspected and engineered structural design of the La Mirador de la Moya Observatory

## Publications

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### ■ Peer-reviewed Journal Articles

- Shah, H. S., Wagner, H. C., Sanga, U., **Park, H.**, Monteiro de Lima Demange, L. H., Gueiros, C., Niles, N. (in press). Does household capital mediate the uptake of agricultural land, crop, and livestock adaptations? Evidence from the Indo-Gangetic Plains (India). *Frontiers in Sustainable Food Systems*.
- Fan, P., Ouyang, Z., Duong, N., Hang N., **Park, H.**, and Chen. J. (in press). Urbanization, economic development, environmental and social changes in transitional economies: Vietnam after Doimoi. *Landscape and Urban Planning*.
- Ouyang, Z., Lin, M., Chen, J., Fan, P., Qian, SS., **Park H.**, (2019) Improving estimates of built-up area from night time light across globally distributed cities through hierarchical modeling. *Science of The Total Environment*, 647, 1266-1280.
- Chen, J. John, R., Sun, G., Fan, P., Henebry, G., Fernández-Giménez, M. Zhang, Y., **Park, H.**, Tian, L., Groisman, P., Ouyang, Z., Allington, G., Wu, J., Shao, C., Amartuvshin, A., Dong, G., Gutman, G., Huettmann, F., Crank, C., Laforteza, R., Qi, J. (2018). Prospects for the Sustainability of Social-Ecological Systems (SES) on the Mongolian Plateau: Five Critical Issues. *Environmental Research Letter*, 3, 123004.
- John, R., Chen, J., Giannico, V., **Park, H.**, Xiao, J., Ouyang, Z., Laforteza, R., Shirkey, G., Shao, C., Qi, J. (2018). Spatio-temporal estimates of canopy cover and herbaceous aboveground biomass on the Mongolian Plateau and their climate and anthropogenic controls. *Remote Sensing of Environment*, 213, 34-48.
- Fan, P., Wan, G., Xu, L., **Park, H.**, Xie, Y., Liu, Y., Yue, W., Chen, J. (2018). Evolving walkability of major cities in China, *Landscape Ecology*, 33(2), 323-340.
- Park, H.**, Fan, P., John, R., Chen, J. (2017). Urbanization on the Mongolian plateau after the economic reforms:

changes and the causes, *Applied Geography*, 86, 118-127.

- Wu, S. R., Kim, S., **Park, H.**, Fan, P., Ligmann-Zielinska, A., Chen, J. (2017). How green buildings communicate green design to the building Users? A survey study on a LEED-certified building, *Journal of Green Building*, 12(3). 85-100.
- Fan, P., Ouyang, Z., Basnou, C., Pino, J., **Park, H.**, Chen, J. (2017). Nature-based solutions for urban landscapes under post-industrialization and globalization: Barcelona versus Shanghai, *Environmental Research*, 156, 272-283.
- Park, H.**, Tsusaka, W. T., Pede, V. O., Kim, K. (2017). The impact of local development on social capital: Experimental evidence from the Bohol irrigation scheme, the Philippines, *Water*, 9(3), 202.
- Fan, Y., Chen, J., Shirkey, G., John, R., Wu, S. R., **Park, H.**, Shao, C. (2016). Applications of structural equation modeling (SEM) in ecological studies: an updated review, *Ecological Processes*, 5(1), 19.
- John, R., Chen, J., Kim, Y., Ouyang, Z., Xiao, J., **Park, H.**, Shao, C., Zhang, Y., Amarjargal, A., Batkshig, O., Qi, J. (2016). Differentiating anthropogenic modification and precipitation-driven change on vegetation productivity on the Mongolian Plateau, *Landscape Ecology* 31(3), 547-566.

#### ■ **Book Chapters**

- Kim, B., **Park, H.**, Park, J. (2019). The evolution of informal settlers' political gains in changing state regimes in Seoul. In R. Rocco & J. V. Ballegoijen (Eds), *Routledge Handbook on Informal Urbanization* (pp. 270-280), Routledge: NY.
- Tsusaka, W. T., Pede, V. O., Kajisa, K., Moya, P., **Park, H.**, Apple Suplido, M.E., Buresh R. J. (2013). *The Preliminary Assessment of NMRice: A Simulation Analysis with IRRI-MICRA Baseline Survey Data*, IRRI: Los Banos.
- You, M., **Park, H.** (2012). Implementing E-waste management program into developing country through Public Private Partnership, In KOICA (Ed), *The Future of Korean Development Cooperation*, Hanwool: Seoul.

#### ■ **Manuscripts in Progress**

- Park, H.**, Fan, P., John, R., Ouyang, Z., Chen, J. (in review). Urban sprawl and informal settlements: Spatiotemporal trends in Ger districts in Ulaanbaatar, Mongolia.
- Park, H.**, Fan, P., Chen, J., Wilson, M., John, R. (in review). Deciphering the complexity of rural-to-urban migration in a transitional economy: A lesson from Mongolia.
- Park, H.**, Mack, E., Chen, J. (in prep). Exploring the impact of ICTs on innovation in Global South
- Sanga, U., **Park, H.**, Shah, H. S., Wagner, H. C., Monteiro de Lima Demange, L. H., Gueiros, C. (in prep). How do farmers adapt to climate stressors? An agent-based modeling approach to understand the decision-making process of agrarian farmers in India.

#### **Selected Presentation (\* is presenter)**

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- Park, H.\***, Fan, P., Chen, J., Wilson, M., John, R. (2018). Deciphering the complexity of rural-to-urban migration in a transitional economy: A lesson from Mongolia. SESYNC Boundary Spanning Symposium, Annapolis, USA.
- Park, H.\*** (2018). Deciphering the complexity of urbanization in transitional economy. AAG 2018 Annual Meeting, New Orleans, USA
- Park, H.\***, Fan, P., John, R., Ouyang, Z., Chen, J. (2017). Urban sprawl and informal settlements: Spatiotemporal trends of Ger districts in Ulaanbaatar. ACSP Annual Conference, Denver, USA. (Gill-Chin Lim Travel Grant Awardee)
- Park, H.\***, Fan, P., John, R., Chen, J. (2017). Urban sprawl and informal settlements: Spatiotemporal trends of Ger districts in Ulaanbaatar, Mongolia. NASA LCLUC Science Team Meeting, Rockville, USA (Poster)
- Park, H.\***, Fan, P., John, R., Chen, J. (2016). Urbanization on the Mongolian Plateau after the economic reform: the changes and drivers. NASA LCLUC Science Team Meeting, North Bethesda, USA (Poster)
- Park, H.\*** (2015). An agent-based modeling of informal housing: Assessing the impacts of climate change and market force in Ulaanbaatar, Mongolia, AAG Annual Meeting, Chicago, USA (Urban Geography Specialty Group Travel Grant Awardee)
- Park, H.\***, Kim, K. (2014). Local Development Project and Its Social Impact: The case of Bohol irrigation scheme, the Philippines, Association of Collegiate Schools of Planning (ACSP) Annual Conference, Philadelphia, USA.
- Park, H.\***, Kim, K. (2013). Using Spatial Pattern Analysis to Explore Local Characteristics: A Focus on F&B Stores in Gangnam Commercial District, South Korea, Association of American Geographers (AAG) 2013 Annual Meeting, Los Angeles, USA
- Park, H.\***, Tsusaka, W. T., Pede, V. O. (2013). A Comparative Study of Social Behavior in Irrigated and Rainfed Areas: The Case of Bohol Irrigation Scheme, the Philippines. ADB Asia Water Week 2013, Manila, Philippines

## Research Experience

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**Center for Global Change and Earth Observation (CGCEO), MSU** East Lansing, USA  
**Graduate Research Assistant** Aug.2014 – Jun.2018

Coupled Human & Natural System on the Mongolian Plateau (NSF-funded project)

- Developed and conducted semi-structured interviews and household surveys to analyze rural-to-urban migration in Mongolia and Inner Mongolia, China
- Analyzed spatiotemporal patterns of urbanization using satellite imagery
- Compared urban and land-use policies during economic transitions of the Mongolian Plateau

**Environmental Planning Institute, Seoul National University** Seoul, Korea  
**Researcher** Dec.2013 – Jun.2014

Public housing prototype development in Seoul (Seoul Metropolitan Government funded Project)

- Facilitated process review workshops with Seoul Metropolitan Government
- Designed and delivered surveys and interviews with residents and F&B tenants

**International Rice Research Institute, Social Science Division** Los Banos, Philippines  
**Intern Researcher** Oct.2012 – Mar.2013

An assessment study of Japan International Cooperation Agency (JICA) Bohol ODA project

- Interviewed beneficiaries of the irrigation project and related stakeholders
- Spatial-econometric analysis on the irrigation project's social impact (i.e., social capital)
- Built econometric models to analyze farmers' agricultural activities contingent on climate variations

**Architecture and Urban Research Institute** Anyang, Korea  
**Research Assistant** Aug.2011 – Nov.2011

- Facilitated process review workshops with research fellows
- Analyzed building users' behavioral patterns in public space in the downtown area

## Teaching Experience

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### ■ Bailey Scholars Program

- A learning community focused on innovative teaching and learning practices. (bi-weekly pedagogical training)
- Facilitated the undergraduate course in every other semester

**ANR 410, Integrated Learning Transitions / Instructor** (Graduate Course Convener) Spring, 2018

: Co-developed a syllabus and student-led projects

**ANR 410, Integrated Learning Transitions / Instructor** (Graduate Course Convener) Spring, 2017

: Co-developed an environmental education after-school program for K-12 students as a semester-long project

**ANR 310, Integrated Learning Seminar / Instructor** (Graduate Course Convener) Spring, 2016

: Co-developed a syllabus for discussion modules including diversity awareness and self-understanding

### ■ Guest Lectures

**UP 801, Concepts and Issues in Planning and Development** Fall, 2015 & 2017

**UP 454, Local Economic Planning** Fall, 2017

**UP 201, Introduction to Urban and Regional Planning** Fall, 2017

## Professional Services

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**Session Organizer:** Climate Change and Agrarian Adaptation in the Global South / AAG 2018 2018

**Organizing committee:** Environmental Science and Policy Program Research Symposium 2017

**Modeling Facilitator:** Innovations in Collaborative Modeling Workshop 2016

**Board Member:** *Frontiers in Built Environment: Urban Science* (2018 – Present)

**Reviewer:** *International Journal of Disaster Risk Reduction* (2017)

*Population and Environment* (2018)

*Sustainability* (2018: 4)

*Growth and Change: A Journal of Urban and Regional Policy* (2018)

*AIMS Agriculture and Food* (2018)

*Infrastructure* (2018)

*ISPRS International Journal of Geo-Information* (2018)

*Remote Sensing* (2018)

*Frontiers in Built Environment* (2018, 2019)

*Entropy* (2019)

## Grants & Awards (major grants/scholarships in bold)

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### ■ Research Grants

- Mar. 2016 **Socio-Environmental Synthesis Research for Graduate Students: Modeling Adaptation and Vulnerability to Climate Risks from the “Ground-up”** National Socio-Environmental Synthesis Center (SESYNC)
- Jun. 2015 **2015 Asia Development Fellowship** (\$ 8,000) The Asia Foundation & KDI School  
: Understating of Informal Urbanization: Using a participatory modeling framework
- Oct. 2013 Seoul National University (SNU) in Global Research (\$ 14,000) SNU  
: Transient workers’ settlement and their amusement places in the globalized city

### ■ Awards & Scholarships

- Mar. 2018 **Dissertation Completion Fellowship** (\$ 7,000) MSU
- May. 2017 Environmental Science and Policy Program (ESPP) Network Fellow MSU
- Jan. 2017 **NASA-MSU Professional Enhancement Awards** NASA-MSU
- 2015, 2016 Bailey Scholars Graduate Fellowship MSU
- 2015 - 2017 School of Planning, Design, and Construction Fellowship MSU
- Apr. 2016 National Endowment for the Humanities Summer Institute Fellow, Modern Mongolia: Heritage and Tradition Amid Changing Realities (Declined) American Center for Mongolian Studies
- Feb. 2014 **The Best Master Thesis Award** SNU
- Aug. 2013 **Korean Government Doctoral Study Abroad Scholarship** Ministry of Education, Korea  
: The most prestigious scholarships for study abroad. (\$ 71,000)
- May. 2012 **The 2<sup>nd</sup> prize winner of KOICA thesis competition in international cooperation and development** Korea International Cooperation Agency (KOICA)  
: E-waste management program into developing countries through Public-Private Partnership
- Sep. 2011 **World Friends Korea Scholarships** (\$ 11,000) KOICA
- Mar. 2011 The 3<sup>rd</sup> prize winner of the KOICA East Asia Climate Partnership thesis competition KOICA  
: A Proposal for green growth in developing country
- Dec. 2006 **The 1<sup>st</sup> Prize Award (The Chairman of the National Assembly) of “Making a Clean Society” idea contest** National Assembly of Korea  
: A New Planning Process for the New Town Development Project

### ■ Travel Funds

- Feb. 2018 ESPP Conference Travel Funding MSU
- Oct. 2017 Professional development grant by Council of Graduate Students MSU
- Aug. 2017 **Gill-Chin Lim Travel Award for 2017 Association of Collegiate Schools of Planning** ACSP
- Mar. 2015 Urban Geography Specialty Group Travel Award AAG
- Mar. 2015 ESPP Conference Travel Funding MSU
- Sep. 2014 Travel grant by Council of Graduate Students MSU

## Service Activities

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### ■ Community Service

- Community Architecture Network Korea (CAN) Korea** Seoul, Korea  
• Co-founder / Financially supported by Seoul Institute Aug.2013 – Jul.2014  
• Mapping informal housing residents’ behavioral patterns at the Metropolitan Seoul

### ■ International Leadership

- APIEL** (Asian Program for Incubation of Environmental Leaders) by University of Tokyo  
“A step forward to achieving bottle to bottle (BtB) recycling system.” Hokkaido, Japan Feb.2013  
: CSR proposal for Coca-Cola Japan; suggesting Closed-Loop Supply chains  
“The assessment of ODA projects through sustainable aspects.” Phnom Pen, Cambodia  
: The assessment study of the Hun Sen Krangyov Development Centre” Jul.2012  
“The Change in QoL of local villagers due to the creation of the HEMC.” Guangzhou, China  
: The impact assessment study of mega development project Jan – Feb.2012
- UNEP TUNZA NEAYEN, Korean Youth Delegator** Shanghai, China  
• North-East Asian Youth Environmental Network Program Sep.2006
- Inter-government Youth Exchanges, Korean Youth Delegator** Ulaanbaatar, Mongolia  
• Selected by the Ministry of Foreign Affairs as a youth delegation of Korea Jun.2006

## ■ Technical Assistance

### Inspection trip for KOICA ODA Projects

Solid waste management, solar power plant, and capacity building program

Sri Lanka

Jun.2012

### Developing educational materials for affordable technologies

• Assistant for a textbook titled as “*Affordable Technologies for International Development.*”

Pohang, Korea

Mar – Jun.2011

### Ulaanbaatar, Mongolia Field Research

• Co-authored “*A Preliminary Research for International Development at Mongolia.*”

Ulaanbaatar, Mongolia

Aug.2007

: Studied on urban development process and associated relationships among aid agencies

### Runtaek Eco-village Project

: preliminary research for preparing “*RUN TA EK eco-village master plan in Siem Reap*”

Siem Reap, Cambodia

Jan – Feb.2007

## ■ Volunteer

### Overseas Volunteers Program

• Supported by Ministry of Gender Equality and Family  
• Improved the Besi Sahar Orphanage's environment and facility

Besi Sahar, Nepal

Jul.2007

### Overseas Volunteers Program

• Improved an elementary school's environment and facility

Old San Jose, Philippines

Jan.2006

## Professional Affiliations

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Association of Collegiate Schools of Planning (ACSP) / American Association of Geographers (AAG) /

American Planning Association (APA) / International Association for Landscape Ecology (IALE)

## Qualification and Skills

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### Languages

Spanish (Fluent): DELE B2 Intermedio, Korean (Native)

### Certification

LEED GA (Leadership in Energy and Environmental Design, Green Associates)

Statistics Packages: SPSS, R, STATA, Mplus, and HLM6

### Technical

Geoinformatics packages and Programming languages: Arc GIS and Python

Remote Sensing packages: eCognition, ENVI, and ERDAS

Graphics tools: Adobe Illustrator and Photoshop